

**ABSTRACT**

Novel optical devices based on diamondoid-containing materials are disclosed.

5    Materials that may be fabricated from diamondoids included diamondoid nucleated CVD  
films, diamondoid-containing CVD films, molecular crystals, and polymerized materials.  
Devices that may be fabricated from the diamondoid-containing materials disclosed  
herein include solid state dye lasers, semiconductor lasers, light emitting diodes,  
photodetectors, photoresistors, phototransistors, photovoltaic cells, solar cells, anti-  
10   reflection coatings, lenses, mirrors, pressure windows, optical waveguides, and particle  
and radiation detectors.